

ZACKARY SCALYER

(717) 598-8390 / zack0179@gmail.com

STATISTICAL COMPETENCIES

- Conceptual understanding of randomized block, balanced incomplete block, factorial, fractional factorial, and response surface designs.
- Application of random-effects, mixed-effects, generalized, and generalized mixed linear models.
- Implementation of data mining tools such as neural networks, decision trees, classification and prediction algorithms using R.
- Experience with R, Python, MATLAB, and SAS.

EDUCATION

- Villanova University May 2020
- Master's in Applied Statistics
 - Cumulative GPA: 3.73
- The Pennsylvania State University, Berks Campus May 2018
- Bachelor of Science in Kinesiology, Exercise Science Option
 - Cumulative GPA: 3.74

ACADEMIC AWARDS

- Villanova's Applied Statistics Comprehensive Exam Pass with Distinction honor April 2020
- The Penn State Berks Excellence in Statistics Award April 2018
- Franco Undergraduate Research Award (\$1,500) January 2017
- Science Peer Tutor Award: Kinesiology June 2017
- Outstanding Science Internship/Co-op Student Award June 2017
- Science Peer Tutor Award: Mathematics June 2016

ACADEMIC TEACHING EXPERIENCE

- 20th Annual Careers with Math Options Conference** **May 2018**
- Faculty Adviser: Selvi Jagadesan
- Presented *Measuring Muscles* to female middle school students from Berks County
- National Biomechanics Day** **April 2018**
- Faculty adviser Dr. Benjamin W. Infantolino
- Musculoskeletal Biomechanics presentation
- Peer Academic Leader: The Neurobiology of Motor Control** **Spring 2017**
- Faculty adviser Dr. Benjamin W. Infantolino
- Conducted weekly review sessions helping students understand course material
- PSU Berks Math, Science, and Statistics tutor** **January 2016 to May 2017**
- Faculty Adviser: Dr. Ryan S. Hassler
- Stat 100 Student Mentor: Presented introduction to probability
- National Science Foundation (NSF) Engineering Ahead Program** **July 2016, July 2017**
- Faculty Adviser: Dr. Ryan S. Hassler
- Program assistant, student mentor, and math tutor
- STEM Conference Student Instructor** **March 2016, March 2017**
- Faculty Adviser: Dr. Ryan S. Hassler & Dr. Benjamin W. Infantolino
- Real-World Data Analysis Using R
 - Ultrasound and muscle anatomy

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ACADEMIC RESEARCH EXPERIENCE

American Society of Biomechanics Regional Conference

April 2018

- Student Chair: Administrative supervisor, recruited moderators for Breakout Sessions

Physics Department Independent Studies

August 2017 to Present

Faculty Adviser: Dr. Alexei Prokudin

- *Transverse-momentum-dependent Multiplicities of Charged Hadrons*

PSU Berks Biomechanics Research Internship

June 2016 to May 2018

Faculty adviser Dr. Benjamin W. Infantolino, & Dr. Allison R. Altman-Singles

- *Optimal Fascicle Length Changes Based On Submaximal Force Or Activation*
- Ultrasound imaging, EMG, load cell data collection and data processing
- Vicon Nexus II Motion Analysis System, Bertec Force-Plate Gate Analysis

PSU Berks Funded Engineering Research

May to August 2017

Faculty Adviser: Dr. Joseph M. Mahoney

- *Design, Calibration and Validation of an Inexpensive Balance Board for Quiet Stance Testing*
- *Joseph M. Mahoney, Zackery E. Scalyer & Matthew B. Rhudy (2018) Design and validation of a simple automated optical step counting method for treadmill walking, Journal of Medical Engineering & Technology, 42:6, 468-474, DOI: 10.1080/03091902.2018.1546343*

PSU Berks Chemistry Research Internship

June to August 2016

Faculty Adviser: Dr. Katie E. Amaral

- *Organic Chemistry Predicting Outcomes*

PRESENTED RESEARCH

PSU Berks Science Division Poster Session

April 2018

- The Structure of the Building Blocks of the Universe

41st American Society of Biomechanics Annual Conference

August 2017

- Poster presentation: Optimal Fascicle Length Changes Based On Submaximal Force Or Activation

18th Annual Undergraduate Research & Creativity Conference

April 2017

- Poster presentation: Organic Chemistry Predicting Outcomes

American Chemical Society (ACS) Middle Atlantic Regional Meeting (MARM)

June 2017

- Poster presentation: Organic Chemistry Predicting Outcomes

Biennial Conference on Chemistry Education (BCCE)

June 2016

- Podium presentation by Dr. Katie E. Amaral: Linear and Generalized Linear Modeling of Organic Chemistry II Grade

MILITARY AWARDS & ACADEMICS

US Marine Corps Certificate of Commendation

July 2010

- Organized, updated, and developed a referencing system for the hazardous materials accumulation point which resulted in 100 percent accountability of all hazmat aboard Camp Gonsalves, Okinawa.
- Wrote nine safety programs which resulted in zero discrepancies on both fire inspections and the Annual Installation Safety Office Inspection of Work and Living quarters.

Corporals Leadership Course

August 2012

- 46 hours in-class instruction. Topics included: public speaking, mentoring, leadership

Marine Corps Martial Art Black Belt Instructor

August 2012

- 158 hours of instructing, certified 39 students